

~~CONFIDENTIAL~~

Z 6 5 . 1 1 3 6 ¹/₃

SINGLE COPY ONLY

copy #1

SID 62-186

MOCKUP NUMBER 13. CREW SUPPORT
EQUIPMENT SPECIFICATION
PROJECT APOLLO SPACECRAFT
(Unclassified)




28 February 1962

4.5.27

Approved by

~~AVAILABLE TO NASA HEADQUARTERS ONLY~~


J. W. Paup
Vice President and Apollo Program Manager

This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18 U.S.C. Section 793 and 794. Its transmission or revelation of its contents in any manner to an unauthorized person is prohibited by law.

~~DOWNGRADED AT 3 YEAR
INTERVALS: DECLASSIFIED AFTER
12 YEARS. DOD DIR 520.10~~

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION

~~CONFIDENTIAL~~

CLASSIFICATION CHANGE

To UNCLASSIFIED

By authority of *adl - 10/11/72*
Changed by *L. Shirley* Date *12/13/72*
Classified Document Master Control Station, NASA
Scientific and Technical Information Facility



CONTENTS

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
1.	SCOPE	1
1.1	Scope	1
2.	APPLICABLE DOCUMENTS	1
2.1	General	1
3.	REQUIREMENTS	1
3.1	Mock-Up Configuration	1
3.1.1	Couches	1
3.2	Construction	1
3.3	Performance	2
4.	QUALITY ASSURANCE PROVISIONS	2
5.	PREPARATION FOR DELIVERY	2
5.1	General	2
6.	NOTES	2
6.1	Intended Use	2

~~CONFIDENTIAL~~

APPENDICES

<u>Appendix</u>		<u>Page</u>
I-A	Government-Furnished Property, Contractor- Installed	5
I-B	Contractor-Furnished Equipment, Contractor- Installed	6

ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Preliminary Couch Support	3
2	Profile of Maximum Seat Excursion From "A" to "B"	4

~~CONFIDENTIAL~~



~~CONFIDENTIAL~~

1. SCOPE

1.1 Scope. - This specification covers a Crew Support Equipment Mock-up of the Apollo Spacecraft Command Module.

2. APPLICABLE DOCUMENTS

2.1 General. - The following documents shall form a part of this specification.

Government Documents

Bulletins

ARDCM-80-1
Volume 1

Handbook of Instructions for
Aircraft Designers

3. REQUIREMENTS

3.1 Mock-Up Configuration. - The mockup shall be located in a partial spacecraft command module. The mockup shall simulate the following:

- (a) Couches
- (b) Shock and vibration mitigation system
- (c) Personal parachute
- (d) Restraint system
- (e) Pressure suits

3.1.1 Couches. - The couches shall be located as shown on Figure 1. The couches shall extend and retract to the positions as shown on Figure 2.

3.2 Construction. - Materials and processes used in the construction of the mockup shall provide an inexpensive mockup of the crew support equipment. Materials used shall support installations and shall withstand handling and transportation. Assemblies, parts and components of the mockup shall be either rejected items of equipment prototypes or reasonable facsimiles, fabricated to the size and shape of the actual equipment. ARDCM-80-1, Volume 1 shall be used for guidance and reference material in the design and construction of the mockup.

~~CONFIDENTIAL~~

3.3 Performance. - The mockup shall be designed and constructed to determine the following:

- (a) Optimum design for the support and restraint system
- (b) Anthropometric requirements
- (c) Couch configuration and adjustability
- (d) Crew protection requirements
- (e) Mobility of crew
- (f) Feasibility of shock and vibration mitigation system

4. QUALITY ASSURANCE PROVISIONS (Not Applicable)

5. PREPARATION FOR DELIVERY

5.1 General. - The mockup shall be used at the contractor's facility.

6. NOTES

6.1 Intended Use. - The mockup is intended to aid in engineering design evaluation.

~~CONFIDENTIAL~~

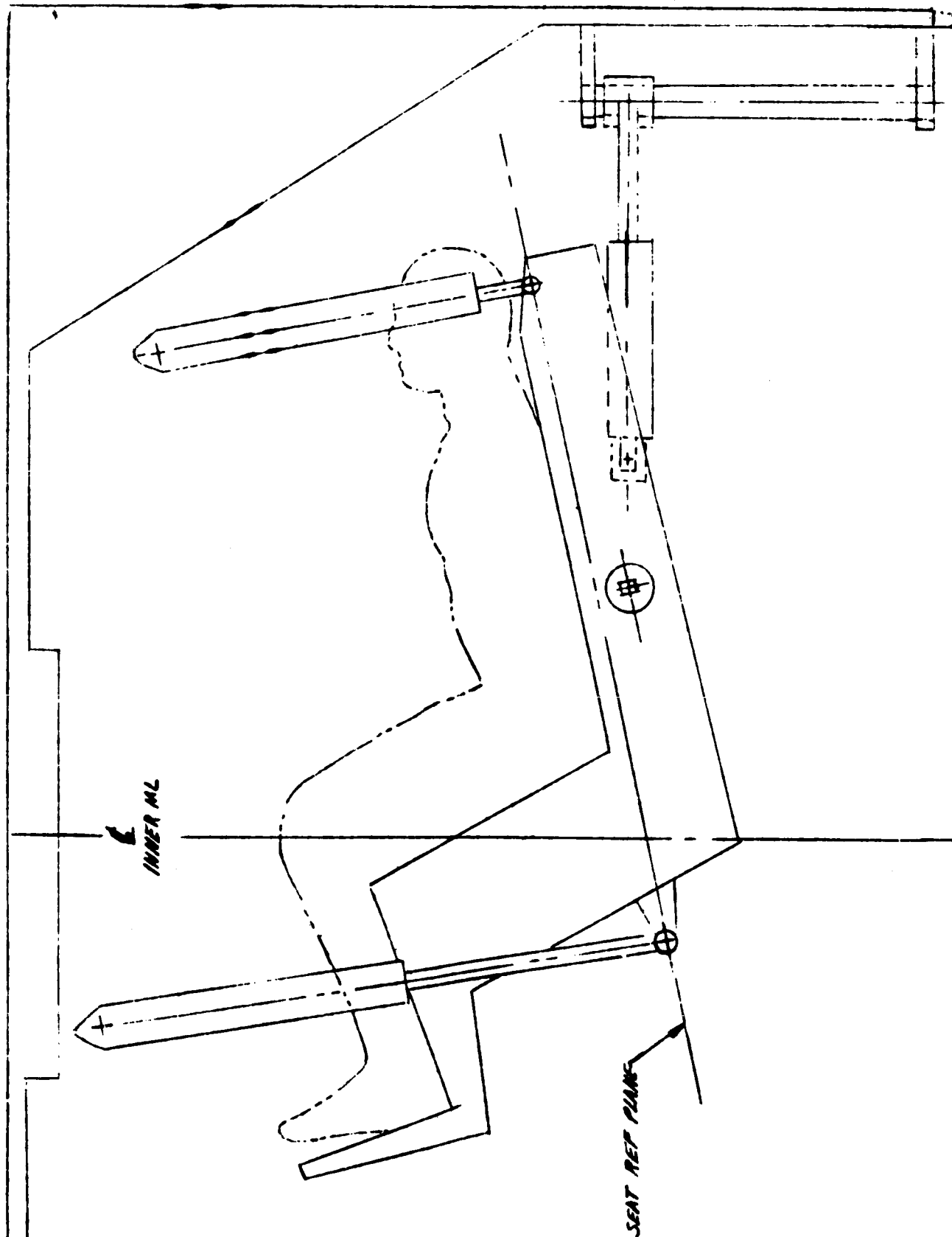


Figure 1. Preliminary Couch Support

~~CONFIDENTIAL~~

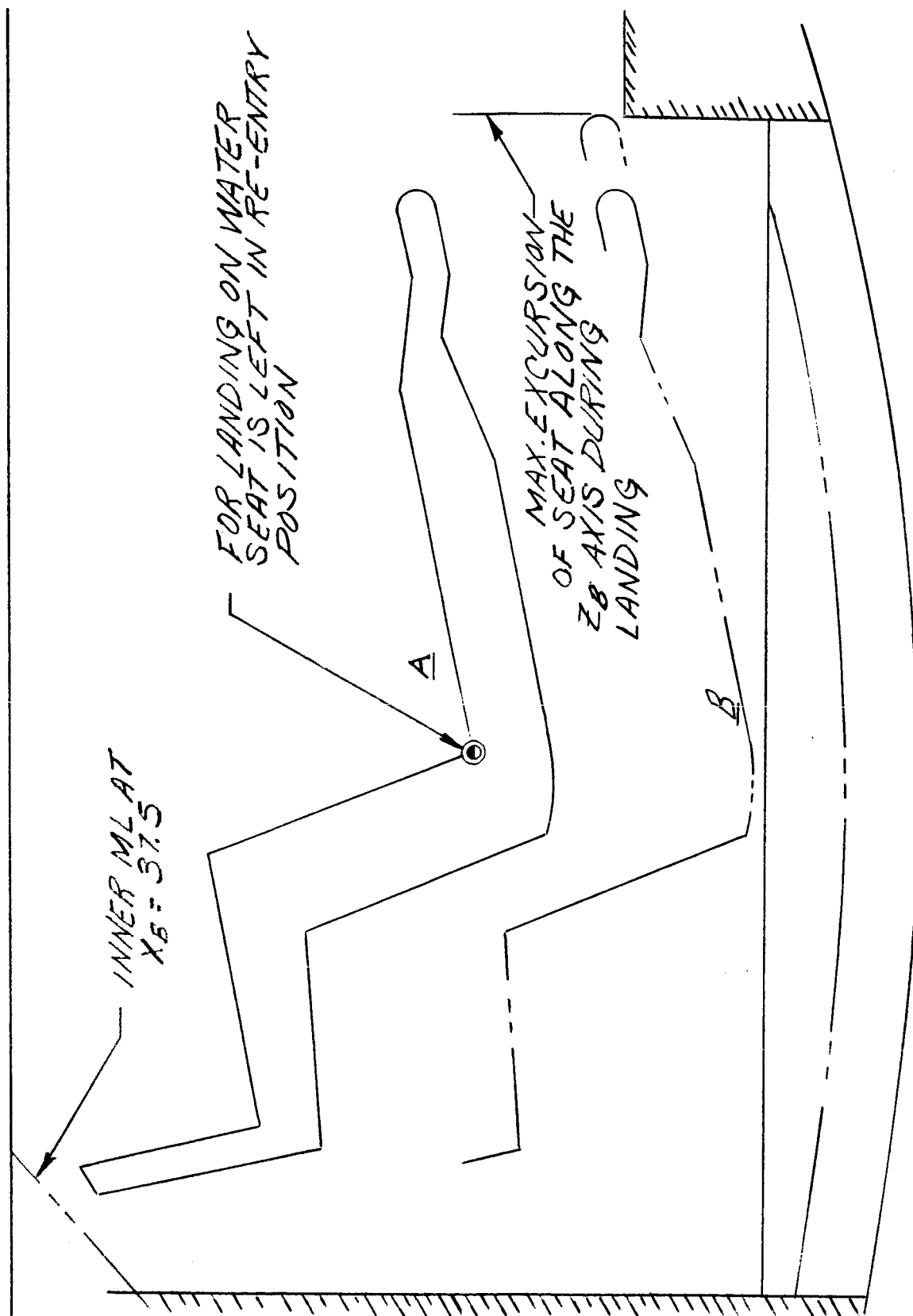


Figure 2. Profile of Maximum Seat Excursion From "A" to "B"

~~CONFIDENTIAL~~Appendix I-AGovernment-Furnished Property, Contractor-Installed

<u>Item No.</u>	<u>Quantity</u>	<u>Description</u>	<u>Part No.</u>
1		Pressure Suits	
2		Portable Life Support Equipment	

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~Appendix I-BContractor-Furnished Equipment Contractor-Installed

<u>Item No.</u>	<u>Quantity</u>	<u>Description</u>	<u>Part No.</u>
1	1	Mechanical System a. seats, couches, etc.	

~~CONFIDENTIAL~~